

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number  
**WO 2005/003819 A1**

(51) International Patent Classification<sup>7</sup>: **G01W 1/14**

(21) International Application Number:  
**PCT/FI2004/000372**

(22) International Filing Date: 16 June 2004 (16.06.2004)

(25) Filing Language: **Finnish**

(26) Publication Language: **English**

(30) Priority Data:  
20030992 1 July 2003 (01.07.2003) FI

(71) Applicant (*for all designated States except US*): **VAISALA OYJ [FI/FI]; PL 26, FIN-00421 Helsinki (FI).**

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **ASPOLA, Juhani [FI/FI]; Ruukkilantie 5 C 24, FIN-00410 Helsinki (FI). IKONEN, Jouni [FI/FI]; Arabiankatu 3 A 12, FIN-00560**

Helsinki (FI). **KOPSALA, Panu [FI/FI]; Nummensyrjäkuja 6 A, FIN-04300 Tuusula (FI). KORVENOJA, Jaakko [FI/FI]; Kaivosrinteentie 2 Ä 223, FIN-01610 Vantaa (FI). SALMI, Atte [FI/FI]; Kulmakuja 6, FIN-06100 Porvoo (FI).**

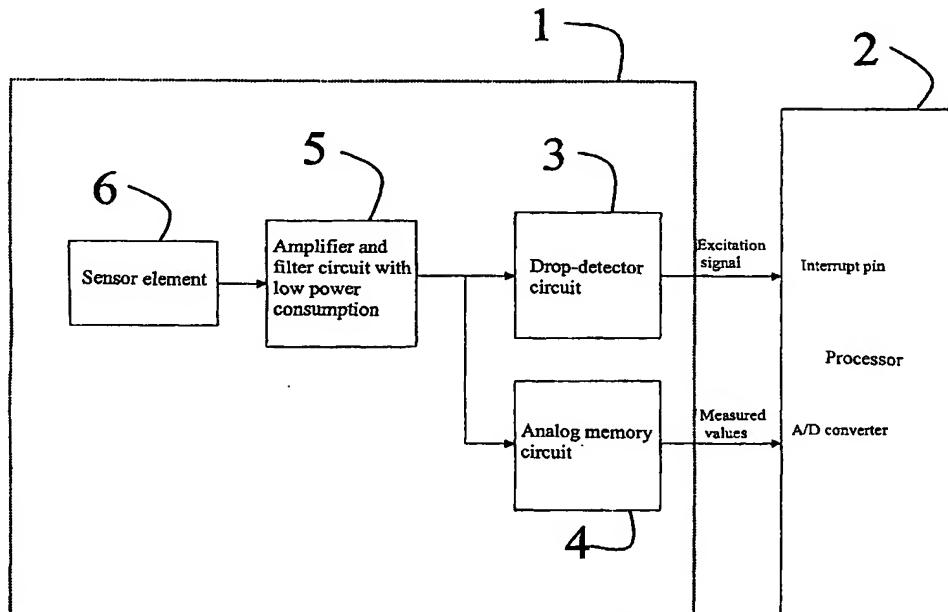
(74) Agent: **SEPPO LAINE OY; Itämerenkatu 3 B, FIN-00180 Helsinki (FI).**

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),**

*[Continued on next page]*

(54) Title: METHOD AND DEVICE FOR HYDROMETEOR DETECTION



(57) Abstract: This publication discloses a method and apparatus for measuring hydrometeors. According to the method, the mechanical impulses of hydrometeors falling on a detection surface are measured. According to the invention, part of the measuring device (1) is used to perform a continuous measurement, in order to define a threshold value for an impulse and only after the threshold value is exceeded is the final part (2) of the measuring apparatus excited for measuring operations, in order to minimize the power consumption of the apparatus.

**WO 2005/003819 A1**



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*